

Additional Information

Produced Water analysis provided
2/27/20



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: WOLFCAMP

Sample Point:

Date Sampled: 09/20/2019

Date Reported: 09/23/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	3679
Iron (as Fe)	39
Sodium (as Na)	28360
Magnesium (asMg)	252
Manganese (as Mn)	

Measurement	Value
PH	6.54
SG	1.066
Turbidity	342
CO2	
Total Dissolved Solids	92502.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	60400
Sulfate (as SO4)	250
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	415
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.0785	0.0014	0.0004	-28.9489
120	0.5101	0.0011	0.0004	-29.1826
160	1.1763	0.0010	0.0003	-29.3949
200	1.8538	0.0009	0.0003	-29.5767
250	2.5717	0.0006	0.0002	-29.6770



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: WOLFCAMP

Sample Point: Heater Treater

Date Sampled: 09/20/2019

Date Reported: 09/23/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	3830
Iron (as Fe)	1
Sodium (as Na)	28100
Magnesium (asMg)	280
Manganese (as Mn)	

Measurement	Value
PH	6.54
SG	1.068
Turbidity	76
CO2	
Total Dissolved Solids	92502.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	59650
Sulfate (as SO4)	275
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	366
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.1187	0.0000	0.0000	-28.9486
120	0.4704	0.0000	0.0000	-29.1824
160	1.1366	0.0000	0.0000	-29.3947
200	1.8148	0.0000	0.0000	-29.5764
250	2.5332	0.0000	0.0000	-29.6765



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: WOLFCAMP

Sample Point: Well Head

Date Sampled: 03/01/2019

Date Reported: 03/05/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	4425
Iron (as Fe)	0
Sodium (as Na)	29500
Magnesium (asMg)	658
Manganese (as Mn)	

Measurement	Value
PH	6.18
SG	1.062
Turbidity	106
CO2	
Total Dissolved Solids	86901.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	51450
Sulfate (as SO4)	600
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	268
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.5588	0.0000	0.0000	-28.9575
120	0.0318	0.0000	0.0000	-29.1911
160	0.6978	0.0000	0.0000	-29.4042
200	1.3780	0.0000	0.0000	-29.5876
250	2.0978	0.0000	0.0000	-29.6910



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: BONE SPRINGS

Sample Point: Well Head

Date Sampled: 06/20/2019

Date Reported: 06/22/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	5637
Iron (as Fe)	28
Sodium (as Na)	43770
Magnesium (asMg)	850
Manganese (as Mn)	

Measurement	Value
PH	6.29
SG	1.100
Turbidity	14
CO2	
Total Dissolved Solids	159716.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	108500
Sulfate (as SO4)	175
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	756
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	0.1889	0.0009	0.0004	-29.1101
120	0.7647	0.0007	0.0003	-29.3367
160	1.6778	0.0007	0.0003	-29.5625
200	2.4070	0.0006	0.0003	-29.7794
250	3.0263	0.0004	0.0002	-29.9567



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: BONE SPRINGS

Sample Point: Well Head

Date Sampled: 09/21/2017

Date Reported: 09/29/2017

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	272
Iron (as Fe)	0
Sodium (as Na)	64420
Magnesium (asMg)	0
Manganese (as Mn)	

Measurement	Value
PH	7.02
SG	1.1086
Turbidity	550
CO2	
Total Dissolved Solids	171603.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	104750
Sulfate (as SO4)	575
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	1586
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.1217	0.0000	0.0000	-29.0811
120	0.4660	0.0000	0.0000	-29.3095
160	1.3945	0.0000	0.0000	-29.5337
200	2.1412	0.0000	0.0000	-29.7456
250	2.7571	0.0000	0.0000	-29.9107



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: WOLFCAMP

Sample Point: Compressor

Date Sampled: 09/20/2019

Date Reported: 09/23/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	96
Iron (as Fe)	0
Sodium (as Na)	3129
Magnesium (asMg)	2090
Manganese (as Mn)	

Measurement	Value
PH	6.39
SG	1.001
Turbidity	200
CO2	
Total Dissolved Solids	10630.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	2650
Sulfate (as SO4)	25
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	1440
Sulfide (as S2)	1200

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.7628	0.0000	0.0000	-28.4874
120	-0.2960	0.0000	0.0000	-28.7133
160	0.3061	0.0000	0.0000	-28.8764
200	0.8672	0.0000	0.0000	-28.9746
250	1.3635	0.0000	0.0000	-28.9516



P.O. Box 3394 Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 218241

Client Information

Sample Information

County: Eddy County

Zone: WOLFCAMP

Sample Point: FWKO

Date Sampled: 09/20/2019

Date Reported: 09/23/2019

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as CA)	3576
Iron (as Fe)	14
Sodium (as Na)	64336
Magnesium (asMg)	83
Manganese (as Mn)	

Measurement	Value
PH	6.26
SG	1.065
Turbidity	144
CO2	
Total Dissolved Solids	136018.000

Anions

Ion	Concentration(mg/L)
Chlorides (as CL)	67200
Sulfate (as SO4)	150
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	659
Sulfide (as S2)	0

Temp (F)	CaCO3	CaSO4* 2H2O	CaSO4	BaSO4
80	-0.0811	0.0002	0.0004	-29.0615
120	0.4691	0.0002	0.0003	-29.0615
160	1.3024	0.0002	0.0003	-29.5138
200	1.9795	0.0001	0.0003	-29.7206
250	2.6165	0.0001	0.0002	-29.8737